

a semiconductor film comprising a channel forming region provided over the insulating underlying film;

a gate insulating film provided over the channel forming region; and

a gate electrode provided adjacent to the channel forming region and over the gate insulating film,

wherein the silicon oxide nitride film ranges from 0.3 to 1.6 in a ratio of the concentration of nitrogen to the concentration of silicon,

wherein the silicon oxide nitride film has a thickness of 50 to 200 nm, and

wherein the insulating layer containing silicon and oxygen has a thickness of 10 to 300 nm. - -

-- 19. A semiconductor device comprising:

an insulating underlying film provided over a substrate and comprising at least a silicon oxide nitride film and an insulating layer containing silicon and oxygen;

a semiconductor film comprising a channel forming region provided over the insulating underlying film;

a gate insulating film provided over the channel forming region; and

a gate electrode provided adjacent to the channel forming region and over the gate insulating film,

wherein the silicon oxide nitride film ranges from 0.1 to 1.7 in a ratio of the concentration of oxygen to the concentration of silicon,

wherein the silicon oxide nitride film has a thickness of 50 to 200 nm, and

wherein the insulating layer containing silicon and oxygen has a thickness of 10 to 300 nm. - -

-- 20. A semiconductor device comprising:

a silicon oxide nitride film provided over a substrate;

a first transistor provided in a pixel and over said silicon oxide nitride film;

a first semiconductor film comprising a first channel forming region of said first transistor;

(B) a source region and a drain region provided in said first semiconductor film and sandwiching said first channel forming region;

a first gate insulating film provided over said first channel forming region;

a first gate electrode provided adjacent to said first channel forming region and over said first gate insulating film;

a pixel electrode provided over said substrate and connected with one of said source region and said drain region;

a second transistor provided in a driver and over said silicon oxide nitride film;

a second semiconductor film comprising a second channel forming region of said second transistor;

a second gate insulating film provided over said second channel forming region;

a second gate electrode provided adjacent to said second channel forming region and over said second gate insulating film,

wherein said silicon oxide nitride film ranges from 0.3 to 1.6 in a ratio of the concentration of nitrogen to the concentration of silicon.--

-- 21. A semiconductor device comprising:


- a silicon oxide nitride film provided over a substrate;
- a first transistor provided in a pixel and over said silicon oxide nitride film;
- a first semiconductor film comprising a first channel forming region of said first transistor;
- a source region and a drain region provided in said first semiconductor film and sandwiching said first channel forming region;
- a first gate insulating film provided over said first channel forming region;
- a first gate electrode provided adjacent to said first channel forming region and over said first gate insulating film;
- a pixel electrode provided over said substrate and connected with one of said source region and said drain region;
- a second transistor provided in a driver and over said silicon oxide nitride film;
- a second semiconductor film comprising a second channel forming region of said second transistor;
- a second gate insulating film provided over said second channel forming region;
- a second gate electrode provided adjacent to said second channel forming region and over said second gate insulating film,

wherein the silicon oxide nitride film ranges from 0.1 to 1.7 in a ratio of the concentration of oxygen to the concentration of silicon. - -

-- 22. A device according to claim 18 wherein said semiconductor device is incorporated into a personal computer. - -

-- 23. A device according to claim 18 wherein said semiconductor device is incorporated into a video camera. - -

-- 24. A device according to claim 18 wherein said semiconductor device is incorporated into a goggle type display. - -

 -- 25. A device according to claim 18 wherein said semiconductor device is incorporated into a player using a recording medium. - -

-- 26. A device according to claim 18 wherein said semiconductor device is incorporated into a digital camera. - -

-- 27. A device according to claim 18 wherein said semiconductor device is incorporated into a projector. - -


-- 28. A device according to claim 18 wherein said semiconductor device is incorporated into a cellular phone. - -

-- 29. A device according to claim 18 wherein said semiconductor device is incorporated into a portable book. - -

-- 30. A device according to claim 18 wherein said semiconductor device is incorporated into a display. - -

-- 31. A device according to claim 19 wherein said semiconductor device is incorporated into a personal computer. - -

-- 32. A device according to claim 19 wherein said semiconductor device is incorporated into a video camera. - -



-- 33. A device according to claim 19 wherein said semiconductor device is incorporated into a goggle type display. - -

-- 34. A device according to claim 19 wherein said semiconductor device is incorporated into a player using a recording medium. - -

-- 35. A device according to claim 19 wherein said semiconductor device is incorporated into a digital camera. - -

-- 36. A device according to claim 19 wherein said semiconductor device is incorporated into a projector. - -

-- 37. A device according to claim 19 wherein said semiconductor device is incorporated into a cellular phone. - -

-- 38. A device according to claim 19 wherein said semiconductor device is incorporated into a portable book. --

-- 39. A device according to claim 19 wherein said semiconductor device is incorporated into a display. --

-- 40. A device according to claim 20 wherein said semiconductor device is incorporated into a personal computer. - -

21 -- 41. A device according to claim 20 wherein said semiconductor device is incorporated into a video camera. - -

-- 42. A device according to claim 20 wherein said semiconductor device is incorporated into a goggle type display. - -

-- 43. A device according to claim 20 wherein said semiconductor device is incorporated into a player using a recording medium. - -

-- 44. A device according to claim 20 wherein said semiconductor device is incorporated into a digital camera. - -

-- 45. A device according to claim 20 wherein said semiconductor device is incorporated into a projector. - -

-- 46. A device according to claim 20 wherein said semiconductor device is incorporated into a cellular phone. - -

-- 47. A device according to claim 20 wherein said semiconductor device is incorporated into a portable book. - -

-- 48. A device according to claim 20 wherein said semiconductor device is incorporated into a display. - -

31 -- 49. A device according to claim 21 wherein said semiconductor device is incorporated into a personal computer. - -

-- 50. A device according to claim 21 wherein said semiconductor device is incorporated into a video camera. - -

-- 51. A device according to claim 21 wherein said semiconductor device is incorporated into a goggle type display. - -

-- 52. A device according to claim 21 wherein said semiconductor device is incorporated into a player using a recording medium. - -

-- 53. A device according to claim 21 wherein said semiconductor device is incorporated into a digital camera. - -

-- 54. A device according to claim 21 wherein said semiconductor device is incorporated into a projector. - -

-- 55. A device according to claim 21 wherein said semiconductor device is incorporated into a cellular phone. - -

B1 -- 56. A device according to claim 21 wherein said semiconductor device is incorporated into a portable book. - -

-- 57. A device according to claim 21 wherein said semiconductor device is incorporated into a display. - -

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